

**RECOMBINANT VECTOR FOR TRANSFORMING STRAIN TO DETECT  
BENZOIC ACID AND DERIVATIVES THEREOF, TRANSFORMANT  
CONTAINING THE RECOMBINANT VECTOR, AND METHOD FOR  
DETECTING BENZOIC ACID AND DERIVATIVES THEREOF USING THE  
TRANSFORMANT**

**Abstract of the Disclosure**

Disclosed herein is a recombinant vector for transforming a strain to detect benzoic acid and derivatives, comprising a bioluminescent gene encoding a bioluminescent protein and a gene set inducing the expression of the bioluminescent gene wherein the gene set includes the regulatory gene nagR and a promoter region inducing the transcription of the bioluminescent gene via the action of protein NagR encoded by the gene nagR. Further disclosed are a transformant containing the recombinant vector and a method for detecting benzoic acid and derivatives thereof by measuring bioluminescence generated after reacting the transformant with a sample to be tested.

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